

17654

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (Under 37 CFR 1.97(b) or 1.97(c))	
Docket No. 08228/019001	

In Re Application Of: Shiro SAKAI et al.

Serial No.

10/044,686

Filing Date

January 11, 2002

Examiner

Group Art Unit

1765

Title: NITRIDE SEMICONDUCTOR CHIP AND METHOD FOR MANUFACTURING NITRIDE  
SEMICONDUCTOR CHIP

Address to:  
Assistant Commissioner for Patents  
Washington, D.C. 20231

**37 CFR 1.97(b)**

1.  The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application; within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or before the mailing date of a first Office Action on the merits, whichever event occurs last.

**37 CFR 1.97(c)**

2.  The Information Disclosure Statement submitted herewith is being filed after three months of the filing of a national application, or the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or after the mailing date of a first Office Action on the merits, whichever occurred last but before the mailing date of either:

1. a Final Action under 37 CFR 1.113, or
2. a Notice of Allowance under 37 CFR 1.311,

whichever occurs first.

Also submitted herewith is:

a certification as specified in 37 CFR 1.97(e);

**OR**

the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under 37 CFR 1.97(c).

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT**  
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**Payment of Fee**

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- A check in the amount of \_\_\_\_\_ is attached.
- The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 50-0591 as described below. A duplicate copy of this sheet is enclosed.
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Tawana L. Garcia

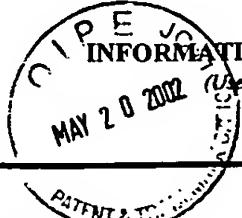
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<b>INFORMATION DISCLOSURE CITATION</b> <small>(Use several sheets if necessary)</small>				Docket Number (Optional) 08228/019001	Application Number 10/044,686		
				Applicant(s) Shiro SAKAI et al.	Group Art Unit 1765		
				Filing Date January 11, 2002	JUN 11 2002 TC 1700		
<b>U.S. PATENT DOCUMENTS</b>							
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A1	6,030,848	02/29/2000	Yuge et al.	438	46	04/16/1997
	A2	5,929,466	07/27/1999	Ohba et al.	257	103	06/13/1997
	A3	5,900,650	05/04/1999	Nitta	257	94	07/02/1997
	A4	5,888,886	03/30/1999	Sverdlov et al.	438	505	06/30/1997
<b>FOREIGN PATENT DOCUMENTS</b>							
REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
A6	10-312971	11/24/1998	Japan	H01L	21/205		✓
A7	2000-21789	01/21/2000	Japan	H01L	21/205		✓
A8	11-354839	12/24/1999	Japan	H01L	33/00		✓
A9	11-354840	12/24/1999	Japan	H01L	33/00		✓
A10	11-354842	12/24/1999	Japan	H01L	33/00		✓
<b>OTHER DOCUMENTS</b> (Including Author, Title, Date, Pertinent Pages, Etc.)							
	A11	English/Japanese Notice of Grounds For Rejection, Japanese Patent Application Serial No. 2000-227963, 7 pages					
	A12	English/Japanese Notice of Grounds for Rejection, Japanese Patent Application Serial No. 2000-164349, 4 pages					
EXAMINER				DATE CONSIDERED			
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**Applicant(s)**

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Shiro SAKAI et al.

**Filing Date**

Group Art Unit

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## **U.S. PATENT DOCUMENTS**

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
C1	11-145516	05/28/1999	Japan	H01L	33/00		✓
C2	11-346032	12/14/1999	Japan	H01S	3/18		✓
C3	11-346035	12/14/1999	Japan	H01S	3/18		✓
C4	2000-91252	03/31/2000	Japan	H01L	21/205		✓
C5	2000-91253	03/31/2000	Japan	H01L	21/205		✓

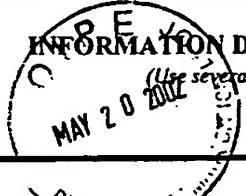
**OTHER DOCUMENTS** (*Including Author, Title, Date, Pertinent Pages, Etc.*)

	C6	Patent Abstract of Japanese Patent No. JP11354839, published 12/24/1999, 1 page
	C7	Patent Abstract of Japanese Patent No. JP11354840, published 12/24/1999, 1 page

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## **U.S. PATENT DOCUMENTS**

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## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
D1	2000-357820	12/26/2000	Japan	H01L	33/00		✓
D2	4-297023	10/21/1992	Japan	H01L	21/205		✓
D3	EP 0 497 350 B2	08/05/1992	Europe	C30B	25/02		

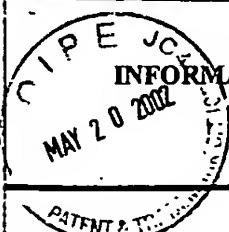
**OTHER DOCUMENTS** (*Including Author, Title, Date, Pertinent Pages, Etc.*)

	D4	Patent Abstract of Japanese Patent No. JP11354842, published 12/24/1999, 1 page
	D5	Patent Abstract of Japanese Patent No. JP11266004 corresponding to US Patent No. 6,177,684, published 01/23/2001, 1 page

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						YES	NO

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	E1	Patent Abstracts of Japan, Publication No. 09227298A, published 09/02/1997, 1 page
	E2	Patent Abstracts of Japan, Publication No. 10022568A, published 01/23/1998, 1 page

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Initials

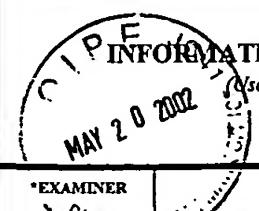
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F1	Patent Abstracts of Japan, Publication No. 11135832A, published 05/21/1999, 1 page
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F3	Patent Abstracts of Japan, Publication No. 11145516A, published 05/28/1999, 1 page
F4	Patent Abstracts of Japan, Publication No. 11346032A, published 12/14/1999, 1 page
F5	Patent Abstracts of Japan, Publication No. 11346035A, published 12/14/1999, 1 page
F6	Patent Abstracts of Japan, Publication No. 2000091252A, published 03/31/2000, 1 page
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F9	Patent Abstract of Japanese Patent No. JP4297023 corresponding to European Patent No. EP0497350, published 08/05/1992, 1 page
F10	"InGaN/GaN/AlGaN-based laser diodes with modulation-doped strained-layer superlattices grown on an epitaxially laterally overgrown GaN substrate", Shuji Nakamura et al. Appl. Phys. Lett. 72 (2), 12 January 1998 1998 American Institute of Physics, 3 pages
F11	"Influence of sapphire nitridation on properties of gallium nitride grown by metalorganic chemical vapor deposition", S. Keller et al. Appl. Phys. Lett. 68 (11), 11 March 1996 1996 American Institute of Physics, 3 pages
F12	"The effect of the Si/N treatment of a nitridated sapphire surface on the growth mode of GaN in low-pressure metalorganic vapor phase epitaxy", S. Haffouz et al. Applied Physics Letters, Volume 73, Number 9, 31 August 1998, 3 pages

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G1	"Growth of high-quality GaN by low-pressure metal-organic vapour phase epitaxy (LP-MOVPE) from 3D islands and lateral overgrowth", H. Lahreche et al. N.H Elsevier Journal of Crystal Growth 205 (1999) 245-252, 8 pages
G2	"Optimization of Si/N Treatment Time of Sapphire Surface and Its Effect on the MOVPE GaN Overgrowths", S. Haffouz et al. phys. stat. sol. (a) 176, 677 (1999), 5 pages
G3	"Influence of in situ sapphire surface preparation and carrier gas on the growth mode of GaN in MOVPE" P. Vennegues et al. N.H. Elsevier Journal of Crystal Growth 187 (1998) 167-177, 11 pages
G4	"Fabrication and Characterization of Low Defect Density GaN Using Facet Controlled Epitaxial Lateral Overgrowth (FACELO)" K. Hiramatsu et al. The Tenth International Conference on Metalorganic Vapor Phase Epitaxy June 5-9, 2000 Hokkaido University Conference Hall, Sapporo, Japan (pages 289-300) (5 pages)
G5	"Preparation of conductive ZnO:Al films by a facing target system with a strong magnetic field" Kikuo Tominaga et al. Thin Solid Films 253 (1994) pages 9-13 Elsevier Science S.A. (5 pages)
G6	"p-Type Electrical Conduction in ZnO Thin Films by Ga and N Codoping" Matthew Joseph et al. Japanese Journal of Applied Physics, Vol. 38 (1999), pages L1205-L1207 (3 pages)

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